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(21) 出願番号	実願平2-113261	(73) 実用新案権者	999999999
(22) 出願日	平成 2 年 (1990) 10 月 29 日		共同印刷株式会社
(65) 公開番号	実開平4-73321	(72) 考案者	井上 洋一郎
(43) 公開日	平成 4 年 (1992) 6 月 26 日		東京都文京区小石川 4 丁目 14 番 12 号 共 同印刷株式会社内
		(72) 考案者	小瀬 康裕
			東京都文京区小石川 4 丁目 14 番 12 号 共 同印刷株式会社内
		(72) 考案者	北原 三樹
			東京都文京区小石川 4 丁目 14 番 12 号 共 同印刷株式会社内
		(74) 代理人	弁理士 安達 信安
		審査官	宮坂 初男

(54) 【考案の名称】 加熱調理用食品容器

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(57) 【実用新案登録請求の範囲】

【請求項 1】 飲食品を充填した容器本体の上端開口部を膨張可能な内蓋で密閉し、さらに内面に突き刺し用突起片を設けかつ水蒸気の急速通過により笛鳴りが発生する吹笛機構を設けた被せ蓋で閉塞してなる加熱調理用食品容器。

【考案の詳細な説明】

【産業上の利用分野】

本考案は、飲食品を充填したまま電子レンジ、オーブン、直火等で加熱でき、突沸、吹きこぼれを防止することができる加熱調理用の食品容器の改良に関するものである。

【従来技術】

従来から、飲食品を充填したまま加熱調理する容器として、各種の耐熱容器が開発されているが、蓋をしたま

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ま加熱調理すると、充填されている飲食品が沸騰して容器内に水蒸気が充満するために、蓋になんらかの通気性を施すか、蓋を取り除いた状態で加熱調理する必要がある。

前者の蓋に通気性を施したものとしては、例えば PP 等のプラスチックの蓋に部分的に発熱体としてアルミ蒸着を施した容器があり、加熱によって内容物が沸騰し、水蒸気が充満して膨らむと同時に発熱体が高温となり、その部分のプラスチックを軟化させて穴があき、水蒸気が排出され、突沸や吹きこぼれを防ぐことができる。

しかしながら、このような食品容器の水蒸気の排出は目視により感知するもので、加熱調理時には水蒸気の排出を注意している必要があるために、例えば特開昭 63-260510 号公報にみられるように、蓋体の一部に気体の急速な通過によって笛鳴りを発生する吹笛機構を構成し、

加熱調理完了に伴って蒸気が吹笛体を急速に通過する際に笛鳴りを発生させ、調理完了を報知するものが開発されていた。

#### 〔考案が解決しようとする課題〕

前記従来の特開昭63-260510号公報にみられる食品容器は、笛鳴りで調理完了を報知させるもので便利であるが、初めから外蓋に水蒸気排出用小孔があり、密封性やバージン性に乏しいため、この容器のままでは流通、販売できず、容器本体の開口をシールする中蓋が必要となり、それ故、調理直前に中蓋を取り除き電子レンジ等に入れる煩わしさが残る。また中蓋を取り除かないで調理した場合には内圧で破裂してしまう事故が発生する。

本考案は、このような従来の問題点を解決し、加熱効率を高め、かつ調理完了を笛鳴りによって報知することができる加熱調理用食品容器を提供することを目的としている。

#### 〔課題を解決するための手段〕

上記目的を達成するための本考案の具体的構成は、飲食品を充填した容器本体の上端開口部を膨張可能な内蓋で密閉し、さらに内面に突き刺し用突起片を設けかつ水蒸気の急速通過により笛鳴りが発生する吹笛機構を設けた被せ蓋で閉塞してなる加熱調理用食品容器であり、密閉、加熱状態を維持しつつ次第に膨張するフィルムが上限に達した時に突起片でフィルムを破裂させ、加熱蒸気の通過により笛鳴りを発生させるものである。

#### 〔作用〕

本考案の容器では、電子レンジ、オーブン、直火等で容器のまま飲食品を加熱すると、内蓋内に密閉、充填されている飲食品は加熱状態に保たれ、次第に水蒸気が充填されて調理される。そして、発生する水蒸気の充填に伴ってさらに圧力が上昇し、フィルム状内蓋は膨張し始め、遂に内蓋が被せ蓋内面の突き刺し用突起片に衝突すると、内蓋に穴が穿たれ、充填していた水蒸気が排出され、次第に吹笛機構を急速に通過して排出される間に笛鳴りが生ずる。この笛鳴りは沸騰を音で感知させ、加熱調理の完了を報知することになる。

なお、電子レンジを利用して加熱調理する場合には、水蒸気が吹笛機構から排出されたところで、電子レンジの蒸気センサーによりレンジを自動停止できるようにすれば、調理完了を報知すると同時に加熱を停止でき、突沸や吹きこぼれ防止を一層確実にすることができる。

また電子レンジによる加熱の場合、マイクロ波による内部加熱と圧力がかかった蒸気の熱伝導加熱の両方が加えられるため、均一にしかも効率のよい加熱が得られる。

#### 〔実施例〕

本考案の一実施例を図面に従い以下に説明する。

第1図(a)～(c)は本考案の食品容器の加熱状態の順序を示す縦断側面図、第2図は平面図、第3図は吹笛機構部の断面図である。

図面上、1は飲食品を充填した上端が開口する容器本体であって、上端の開口部には、アルミ箔、フィラー入ポリプロピレン(PP)、延伸ポリブチレンテレフタレート(PBT)、高密度ポリエチレン(HDPE)、防湿セロファン等100℃の温度に耐えられ、膨張可能であり、しかも針等による突き刺し強度の弱い(針等により比較的容易に穴を穿つことができる)素材のフィルム状の内蓋2で密閉されている。また、内蓋2の外側には、内蓋2が内圧の上昇により膨張した時にこれを突き刺すことができるような針状の突起片3を内面に設けた被せ蓋4が被せてあり、この被せ蓋4の上面には第2図及び第3図に示すように、水蒸気の排出口5が設けられて水蒸気の急速通過により笛鳴りが発生する吹笛機構6が設けられている。

これらの突起片3、被せ蓋4、吹笛機構6は、PP、PC(ポリカーボネート)、HDPE等のインジェクション成形が容易で、耐熱性のある樹脂あるいはアルミ等の金属を素材にして成形するのが好ましい。

従って、加熱調理時には、第1図(a)のように容器のまま加熱すると、水蒸気が発生し、次第に内蓋2の内部の圧力が上昇しつつ飲食品は加熱状態に保たれて調理される。そして、内蓋2内の圧力が上昇するにつれて内蓋2は次第に膨張し(第1図(b)参照)、被せ蓋4の内面の突起片3に衝突すると、内蓋2に穴があき、充填していた水蒸気は排出され、続いて吹笛機構6の排出口5から排出し、急速に通過するようになると笛鳴りが生じ(第1図(c)参照)、調理完了を報知し、飲食品の突沸、吹きこぼれを防止することができる。

#### 〔考案の効果〕

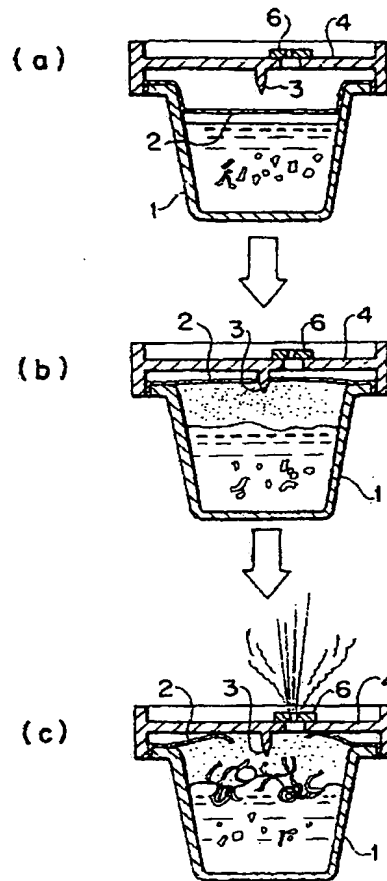
以上述べたように、本考案は、飲食品を充填した容器本体の上端開口部を膨張可能な内蓋で密閉し、さらに内面に突き刺し用突起片を設けかつ水蒸気の急速通過により笛鳴りが発生する吹笛機構を設けた被せ蓋で閉塞したことにより、内容物の突沸や吹きこぼれを防止し、沸騰を音でキャッチすることができ、さらに加熱を均一にしかも効率よく行うことができ、加熱ムラが緩和できるため適正な調理が可能となる等の極めて有用なる効果を有するものである。

#### 〔図面の簡単な説明〕

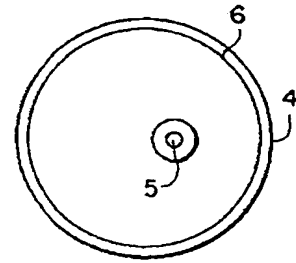
図面は本考案の一実施例を示し、第1図(a)～(c)は食品容器の加熱状態の順序を示す縦断側面図、第2図は平面図、第3図は吹笛機構部の断面図である。

1……容器本体、2……内蓋、3……突起片、4……被せ蓋、5……排出口、6……吹笛機構。

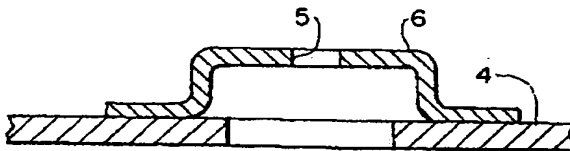
【第1図】



【第2図】



【第3図】



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CLAIMS

(57) [The scope of a claim for utility model registration]

[Claim 1]sealing an upper bed opening of a package body filled up with an eating-and-drinking article with an inner lid which can expand, and thrusting into an inner surface further -- business -- a food container for cooking which formed a \*\*\*\* mechanism which provides a projection piece and \*\*\*\*\* generates by rapid passage of a steam and which is put and is blockaded with a lid.

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[Translation done.]

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DETAILED DESCRIPTION

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[Detailed explanation of the device]

[Industrial Application]

This design can be heated over a microwave oven, oven, an open flame, etc., while it had been filled up with the eating-and-drinking article, and it is related with improvement of the food container for cooking which can prevent bumping and boiloff.

[Description of the Prior Art]

Although various kinds of heat-resistant containers are developed as a container cooked by heating from the former while it had been filled up with the eating-and-drinking article, If it cooks by heating covering, in order for the eating-and-drinking article with which it fills up to boil and for a steam to be full in a container, where it gave a certain breathability to the lid or a lid is removed, it is necessary to cook by heating.

As what gave breathability, the former lid has a container which gave aluminum vacuum evaporation selectively to the lid of plastics, such as PP, as a heating element, for example, Contents boil with heating, a heating element serves as an elevated temperature at the same time a steam is full and swells, the plastic of the portion is softened, a hole gets bored, a steam is discharged, and bumping and boiloff can be prevented.

However, discharge of the steam of such a food container is what is perceived by viewing, Since it needs to be careful of discharge of a steam at the time of cooking, so that JP,63-260510,A may see, for example, When the \*\*\*\* mechanism which generates \*\*\*\*\* was constituted in a part of lid and a steam passed \*\*\*\*\* quickly with the completion of cooking by gaseous rapid passage to it, \*\*\*\*\* was generated, and what reports cooking completion was developed.

[Problem(s) to be Solved by the Device]

Although the food container seen by said conventional JP,63-260510,A makes cooking completion report and is convenient at \*\*\*\*\*, An outer cover has a stoma for steam discharge from the start, since it is lacking in sealing performance or virgin nature, with this container, it cannot circulate and sell, but the middle lid which carries out the seal of the opening of a package body is needed, and the troublesomeness which removes a middle lid just before cooking and is so put into a microwave oven etc. remains. When it cooks without removing a middle lid, the accident which explodes in internal pressure occurs.

This design aims at providing the food container for cooking which can solve such a conventional problem, and can raise heating efficiency, and can report cooking completion by \*\*\*\*\*.

[The means for solving a technical problem]

the concrete composition of this design for attaining the above-mentioned purpose sealing the upper bed opening of the package body filled up with the eating-and-drinking article with the inner lid which can expand, and thrusting into an inner surface further -- business -- it is the food container for cooking which formed the \*\*\*\* mechanism which provides a projection piece and \*\*\*\*\* generates by rapid passage of a steam and which is put and is blockaded with a lid.

When the film which expands gradually reaches a maximum, maintaining sealing and a heated state, a film is burst with a projection piece, and \*\*\*\*\* is generated by passage of heating steam.

[Function]

The eating-and-drinking article which is sealed and with which it fills up in the inner lid is maintained at a heated state, and if an eating-and-drinking article is heated over a microwave oven, oven, an open flame, etc. with a container, a steam will be full of the container of this design gradually, and it will be cooked with it. and -- a pressure rises further with fullness of the steam by which it is generated, a film state inner lid begins to expand,

an inner lid covers at last, and a lid inner surface thrusts -- business -- if it collides with a projection piece, a hole is dug by the inner lid, and while discharging the steam which it was full of, passing a \*\*\*\* mechanism quickly gradually and being discharged, \*\*\*\*\* will arise. This \*\*\*\*\* will make boil perceive to a sound, and will report completion of cooking.

When cooking by heating using a microwave oven, if it enables it to stop a range automatically by the steamy sensor of a microwave oven, while reporting cooking completion, heating can be suspended and bumping and boiloff prevention can be made much more reliable in the place where the steam was discharged from the \*\*\*\* mechanism.

Since both the internal heating by microwave and heat-conduction heating of the steam which required the pressure are added in heating by a microwave oven, uniform moreover, efficient heating is obtained.

[Example]

One example of this design is described below according to a drawing.

Drawing 1 (a) A top view and Drawing 3 of the vertical section side view and Drawing 2 in which -- (c) shows an order of the heated state of the food container of this design are sectional views of a \*\*\*\* mechanism part. One is a package body which carries out an opening on a drawing, and the upper bed filled up with the eating-and-drinking article to the opening of an upper bed. Aluminum foil, filler ON polypropylene (PP), extension polybutylene terephthalate (PBT), Temperature of 100 \*\*, such as high density polyethylene (HDPE) and a waterproof cellophane, can be borne, and it can expand, and, moreover, is sealed with the inner lid 2 of the film state of the raw material with weak (a hole can be dug comparatively easily with a needle etc.) intensity with a needle etc. which thrusts. when the inner lid 2 expanded by the rise of internal pressure on the outside of the inner lid 2, the needlelike projection piece 3 which can pierce this was formed in the inner surface -- covering and having put the lid 4 -- this, as it covers and is shown in Drawings 2 and 3 at the upper surface of the lid 4, The \*\*\*\* mechanism 6 which the outlet 5 of a steam is formed and \*\*\*\*\* generates by rapid passage of a steam is formed.

It covers, and injection moldings, such as PP, PC (polycarbonate), and HDPE, are easy, and, as for the lid 4 and the \*\*\*\* mechanism 6, it is preferred for it to be made from metal, such as these projection pieces 3, existing heat-resistant resin, or aluminum, and to fabricate it.

Therefore, if it heats with a container at the time of cooking as shown in Drawing 1 (a), it is generated by the steam, and the pressure inside the inner lid 2 rising gradually, an eating-and-drinking article will be maintained at a heated state, and will be cooked. And if the inner lid 2 expands gradually (refer to Drawing 1 (b)), and it covers and collides with the projection piece 3 of the inner surface of the lid 4 as the pressure in the inner lid 2 rises, It is discharged, it discharges from the outlet 5 of the \*\*\*\* mechanism 6 continuously, if it comes to pass quickly, \*\*\*\*\* can arise (refer to Drawing 1 (c)), and the steam the hole got bored and was [ steam ] full of the inner lid 2 can report cooking completion, and can prevent bumping of an eating-and-drinking article, and boiloff.

[Effect of the Device]

As stated above, this design seals the upper bed opening of the package body filled up with the eating-and-drinking article with the inner lid which can expand, thrusting into an inner surface furthermore -- business -- by [ which formed the \*\*\*\* mechanism which provides a projection piece and \*\*\*\*\* generates by rapid passage of a steam ] having covered and having blockaded with the lid, Bumping and boiloff of contents can be prevented, boil can be caught to a sound, and it can heat uniformly and efficiently further, and since heating unevenness can be eased, it has very useful effects, like proper cooking is attained.

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[Translation done.]

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

A drawing shows one example of this design and a top view and Drawing 3 of the vertical section side view and Drawing 2 in which Drawing 1 (a) - (c) shows an order of the heated state of a food container are sectional views of a \*\*\*\* mechanism part.

1 [ .... It covers and is a lid and 5. / .... An outlet, 6 / ---- \*\*\*\* mechanism. ] .... A package body, 2 .... An inner lid, 3. .... A projection piece, 4

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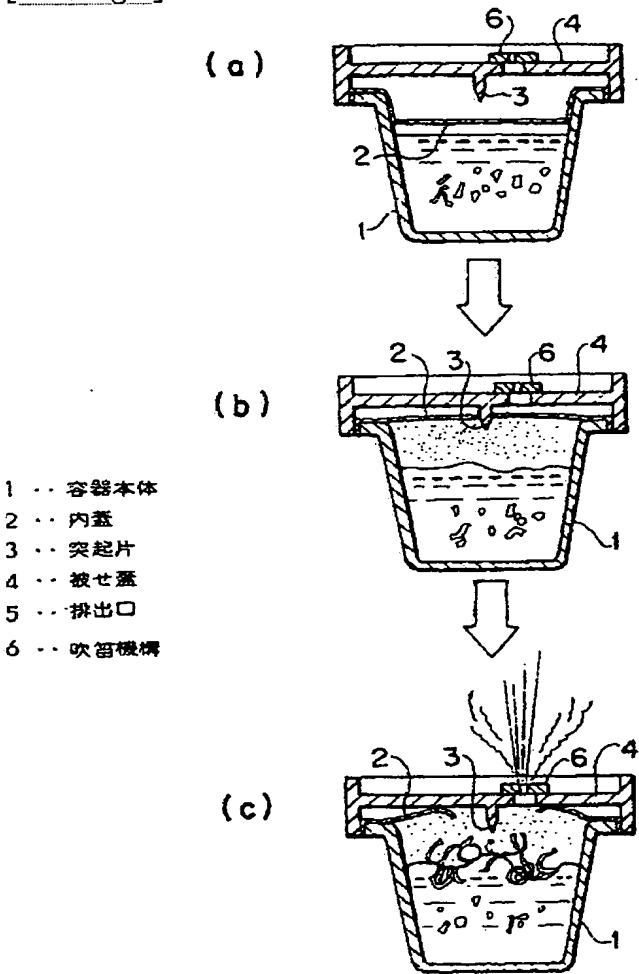
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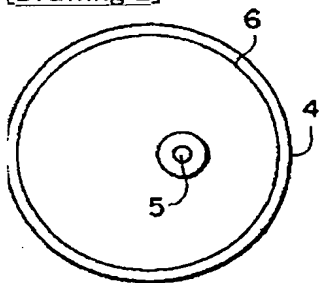
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DRAWINGS

[Drawing 1]

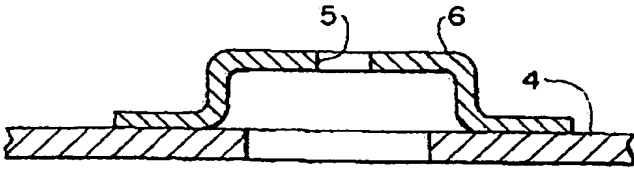


[Drawing 2]



[Drawing 3]





[Translation done.]